Amendments of the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (previously presented) Light-storage self-luminescent glass, comprising from 0.01% to 40% by weight of a light-storage self-luminescent material activated by multiple ions and from 99.99% to 60% by weight of a matrix glass; wherein the light-storage self-luminescent material has a particle size from 0.8 mm to 20 mm, and the matrix glass is selected from the group consisting of sodium-calcium-silicon glass, borate glass, phosphate glass, halide glass, sulfide glass and aluminate glass.

2. (original) Light-storage self-luminescent glass according to claim 1, wherein the chemical formula of the light-storage self-luminescent material activated by multiple ions is:

$$\alpha MO \cdot \beta M'O \cdot \gamma SiO_2 \cdot \delta R:Eu_xLn_y$$

wherein M is one or more selected from the group consisting of Sr, Ca, Ba and Zn;

M' is one or more selected from the group consisting of Mg, Cd and Be;

R is B_2O_3, P_2O_5 or mixture thereof;

Ln is one or more selected from the group consisting of Nd, Dy, Ho, Tm, La, Pr, Tb, Ce, Er, Mn, Bi, Sn and Sb; and

α, β, γ, δ, x and y are molar coefficients meeting following requirement: $0.6 \leq \alpha \leq 6$; $0 \leq \beta \leq 5$; $1 \leq \gamma \leq 9$; $0 \leq \delta \leq 0.7$; $0.00001 \leq x \leq 0.2$; $0 \leq y \leq 0.3$.

3. (previously presented) Light-storage self-luminescent glass according to claim 2, wherein the

chemical formula of the light-storage self-luminescent material activated by multiple ions is:

$(Sr_{1-z}Ca_z)_2MgSi_2O_7:Eu_xLn_y$

wherein Ln is one or more selected from the group consisting of La, Ce, Dy, Tm, Ho, Nd, Er, Sb and Bi;

z is a coefficient: $0 \leq z \leq 1$; and

x and y are molar coefficients: $0.0001 \leq x \leq 0.2$; $0.0001 \leq y \leq 3.0$.

4. (original) Light-storage self-luminescent glass according to claim 1, wherein the chemical formula of the light-storage self-luminescent material activated by multiple ions is:

$(Ca_{1-z}Sr_z)S:Eu_xLn_y$

wherein Ln is one or more selected from the group consisting of Er, Dy, La, Tm and Y;

z is a coefficient: $0 \leq z \leq 1$; and

x and y are molar coefficients meeting following requirement: $0.00001 \leq x \leq 0.2$; $0.00001 \leq y \leq 0.15$.

5. (original) Light-storage self-luminescent glass according to claim 1, wherein the chemical formula of the light-storage self-luminescent material activated by multiple ions is:

$R_2O_2S:Eu_xLn_y$

wherein R is one or more selected from the group consisting of Y, La and Gd;

Ln is one or more selected from the group consisting of Er, Cr, Bi, Dy, Tm, Ti, Mg, Sr, Ca, Ba and Mn; and

x and y are molar coefficients meeting

following requirement: $0.00001 \leq x \leq 0.2$; $0.00001 \leq y \leq 0.6$.

6. (original) Light-storage self-luminescent glass according to claim 1, wherein the chemical formula of the light-storage self-luminescent material activated by multiple ions is:

$$\alpha MO \cdot \beta Al_2O_3 \cdot \gamma B_2O_3 : Eu_xLn_y$$

wherein M is one or more selected from the group consisting of Mg, Ca, Sr and Zn;

Ln is one or more selected from the group consisting of Nd, Dy, Ho, Tm, La, Ce, Er, Pr and Bi; and

α, β, γ, x and y are molar coefficients meeting following requirement: $0.5 \leq \alpha \leq 6$; $0.5 \leq \beta \leq 9$; $0 \leq \gamma \leq 0.3$; $0.00001 \leq x \leq 0.15$; $0.00001 \leq y \leq 0.2$.

7. (original) Light-storage self-luminescent glass according to claim 6, the chemical formula of the light-storage self-luminescent material is:

$$MAl_2O_4 : Eu_xLn_y$$

wherein Ln is one or more selected from the group consisting of La, Ce, Dy, Ho, Nd and Er;

M is one or more selected from the group consisting of Sr, Ca, Mg and Zn; and

x and y are molar coefficients: $0.0001 \leq x \leq 0.15$; $0.0001 \leq y \leq 0.2$.

8. (original) Light-storage self-luminescent glass according to claim 6, wherein the chemical formula of the light-storage self-luminescent material activated by multiple ions is:

$$M_4Al_{14}O_{25} : Eu_xLn_y$$

wherein Ln is one or more selected from

the group consisting of Pr, Ce, Dy, Ho, Nd and Er;

M is one or more selected from the group consisting of Sr, Ca, Mg and Zn; and

x and y are molar coefficients: $0.0001 \leq x \leq 0.15$; $0.0001 \leq y \leq 0.2$.

9-11. (canceled)

12. (previously presented) A process for producing the light-storage self-luminescent glass according to claim 1, comprising:

heating and melting the matrix glass;

doping the light-storage self-luminescent material into the melted matrix glass to produce a mixture; and

forming the mixture at 900-1300°C.

13. (previously presented) A process for producing the light-storage self-luminescent glass according to claim 1, comprising:

re-heating and melting a glass which has been formed and cooled; and

doping the glass with the light-storage self-luminescent material before secondary forming.

14-15. (canceled)

16. (previously presented) Light-storage self-luminescent glass according claim 1, wherein said light-storage self luminescent material activated by multiple ions is selected from the group consisting essentially of silicate, aluminate, sulfide, and any combination thereof.

17. (new) Light-storage self-luminescent glass, comprising from 0.01% to 40% by weight of a light-storage self-luminescent material activated by multiple ions and from 99.99% to 60% by weight of a matrix glass; wherein the light-storage self-luminescent material has a particle size from 0.8 mm to 2 mm, and the matrix glass is selected from the group consisting of sodium-calcium-silicon glass, borate glass, phosphate glass, halide glass, sulfide glass and aluminate glass.

18. (new) A process for producing the light-storage self-luminescent glass according to claim 17, comprising:

heating and melting the matrix glass;

doping the light-storage self-luminescent material into the melted matrix glass to produce a mixture; and

forming the mixture at 900-1300°C.

19. (new) A process for producing the light-storage self-luminescent glass according to claim 17, comprising:

re-heating and melting a glass which has been formed and cooled; and

doping the glass with the light-storage self-luminescent material before secondary forming.